U.S. Fish & Wildlife Service

Wolf Tracks

A Summary of Gray Wolf Activities and Issues

May 1999

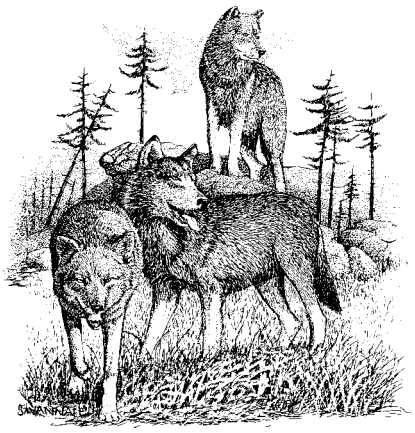
Introduction

Due to increases in gray wolf numbers and range in the continental United States, the U.S. Fish and Wildlife Service (Service) is reviewing potential changes to Endangered Species Act (ESA) protection for gray wolves. "Wolf Tracks" is our way of letting you know what we are doing and to provide an explanation of issues surrounding our actions and gray wolf recovery. This is the second issue of Wolf Tracks. If you know of someone who would like to be added to our mailing list, contact our Gray Wolf Information Line at 612-713-7337 or at graywolfmail.fws.gov. Wolf Tracks is also available on the web at www.fws.gov/r3pao/wolf.

Gray Wolves in the NE United States

Beginning in 1630, the Massachusetts Bay Colony and similar groups paid an average month's salary for any wolf that was killed. Bounties like this continued until the last wolf in the Northeast was killed around 1897. The gray wolf is now considered to be extirpated from the northeastern United States, although it continues to occur nearby in southeastern Canada. Two animals believed to be wolves were found in Maine during the 1990s: in 1993, a single female gray wolf was killed in northwestern Maine, and in 1996 a large wolf or wolf-like canid was trapped and killed in central Maine. There have been no additional confirmed occurrences of wolves in the Northeast since.

The Recovery Plan for the Eastern Timber Wolf identifies several areas in the Northeastern United States as potential sites for the restoration of the gray wolf. These areas include a portion of eastern Maine, northwestern Maine and an area of adjacent New Hampshire, and the Adirondack Forest Preserve Area of northern New York. All of these areas are within the Northern Forest Ecosystem, a 26 million-acre forested area that extends from the Adirondack Mountains of New York east through most of Maine. The area contains suitable gray wolf habitat and lies within the historic range of the gray wolf.



Presently, the U.S. Fish and Wildlife Service is reviewing potential changes to Endangered Species Act protection for gray wolves nationwide. This review includes possible reclassification of the wolf from endangered to threatened in four northeastern states - Maine, New Hampshire, New York and Vermont. In September of 1998, the Service and Defenders of Wildlife hosted a meeting in New Hampshire with representatives from each of the four State Fish and Game Departments and various conservation organizations. The purpose of the meeting was to discuss the tentative changes in wolf listing status and how this will affect the northeastern U.S. It was made very clear that

Gray Wolves in the NE United States (cont.)

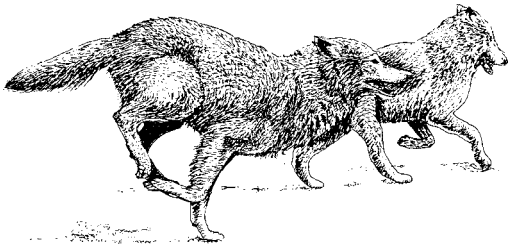
any recovery efforts that included reintroduction would only occur if the Service had the support of the State agencies and through a "section 4(d)" rule, which increases management options to deal with conflicts between wolf recovery and human activities.

Several months after the September 1998 meeting, a bill (HB 240) and a joint House resolution were introduced in the State of New Hampshire that would prohibit efforts to reintroduce wolves in New Hampshire and discourage such initiatives anywhere in the Northeast. This legislation has passed the House and is currently being debated in the Senate. Representatives from the Service's New England Field Office have been present during the House and Senate hearings.

Studies to determine the feasibility of a wolf reintroduction program in the Northeast are in progress. The Service is adapting a predator-prey model developed by Mark Boyce and Jean-Michel Gaillard that was used to simulate the impact wolf recovery in the Yellowstone ecosystem has on ungulate numbers. The model is used to estimate the effect of a reestablished wolf population on white-tailed deer, moose and beaver populations in northern and western Maine. It may also be possible to use the model to compare and contrast wolf predation levels with coyote predation levels, both before and after a simulated wolf restoration.

Defenders of Wildlife, a non-profit conservation organization, is looking into funding a population viability analysis for wolves in the Northeast, as well as a study of the social, ecological and economic impacts of a wolf reintroduction program. They have established a Citizens Advisory Committee in the state of New York for the purpose of keeping interested parties abreast on any new developments in wolf recovery. More than 20 representatives of various stakeholder groups— including timber, hunting, environmental, farming, trapping, recreation, tourism and property owners— attend the meetings and express their views on issues concerning the wolf.

Proposal for Gray Wolf Reclassification/ Delisting



Gray wolf recovery in the Western Great Lakes is a great national success story brought about through the efforts of states, tribal governments, the U.S. Fish and Wildlife Service and other Federal agencies and non-governmental organizations. The ultimate goal of the Endangered Species Act (ESA) is to recover species and return the management of them to state and tribal governments. A species is considered to be "recovered" when numbers and range have increased and previous threats have been reduced so that it is no longer in danger of extinction in the foreseeable future. Recovery criteria in approved Recovery Plans are used to measure progress towards recovery. As they are approached, the Service begins review for potential reclassification or delisting. The Service is currently working on a *Federal Register* notice that reviews the status of the gray wolf nationally, and will propose several different revisions to the animal's ESA status. An extensive public comment period will follow that proposal before we make a final decision on the proposed changes. The Service welcomes and will consider all comments made during that period.

Update on Western Great Lakes State Management Plans

Michigan- The Michigan Wolf Management Plan was approved by the state legislature in December, 1997. No changes have been made to the Michigan state management plan since the last issue of Wolf Tracks was published in February, 1999. The MI Wolf Management Plan is available on the web at <http://www.dnr.state.mi.us/wildlife/publications/mammals/wolf/mgmtplan/default.htm>

Minnesota- The Minnesota Department of Natural Resources (DNR) released their Minnesota Wolf Management Plan in late February. That plan closely follows the recommendations of the Minnesota Wolf Roundtable. The Service's Eastern Gray Wolf Recovery Team reviewed the recommendations of the Minnesota Wolf Roundtable and concluded that these recommendations, if implemented, would likely support a viable wolf population in Minnesota for the foreseeable future. The Minnesota Wolf Management Plan includes the following management activities: wolf populations in the state will be allowed to expand to a minimum population goal of 1,600; no public taking will be allowed for the first five years; killing of wolves in defense of human life will continue to be allowed; livestock owners may kill wolves that pose an immediate threat to their animals; and harassment of wolves to discourage contact with humans and livestock will be allowed.

Debate in the House and Senate and proposals for other management plans indicated deep differences in opinions and approaches. The legislative session ended with no adoption of a wolf management plan. The issue has been tabled until the next session which begins in February, 2000. The MN Wolf Management Plan is available on the web at <http://www.fws.gov/r3pao/wolf/Mnplnpdf.html>

Wisconsin- The Wisconsin DNR released a new draft wolf management plan in February. This revised plan is the result of comments received during the 90-day public comment period. Changes that have been made to the current plan as compared to the first plan include: reducing the state delisting goal from 300 wolves for three years to 250 wolves for one year; changing the population goal from a maximum population of 500 to a minimum of 350, at which point more liberal wolf control could take place; increasing landowner authority to kill wolves caught in the act of depredating; and modifying the wolf management zones. The current draft is available on the web at <http://www.dnr.state.wi.us/org/land/er/publications/wolfplan/plan.htm>

Mexican Gray Wolf Update

Four more Mexican gray wolves were released into the Apache National Forest on March 15, 1999, bringing the total number of wolves released to seventeen. The two adults and their two pups joined two other wolves which remained in the wild from previous releases. About a week after their release, one of the 10-month-old pups was struck and killed by a vehicle on the only highway within the release area. Ten wolves remain in two acclimation pens and the Service plans to release these wolves and two additional family groups into the wild this year.

Gray Wolf Range in the Contiguous United Sates

Gray wolves once ranged over most of the lower 48 states. They were only absent from a portion of California, the southwest corner of Arizona and from the red wolf range in the southeastern United States. By the time gray wolves were listed as an endangered species, their breeding range had been reduced to a small corner of northeastern Minnesota and Isle Royale, Michigan. Individual wolves were periodically observed in the west but there were no packs or breeding. Recovery efforts have since restored the wolf to many areas of its historic range–including portions of the southwest, the Rocky Mountains and the western Great Lakes region.

Historic Range

Range at Time of Listing under the ESA (1974)

Current Range

Current gray wolf range

Mexican gray wolf recovery area

Yellowstone Wolf Litigation

A December 12, 1997, ruling by the U.S. District Court for Wyoming declared the Northern Rocky Mountain nonessential experimental population rules to be in violation of the ESA because they reduce the protection for any naturally occurring (i.e., non-reintroduced) wolves that may be in those areas or may disperse into those areas from northwestern Montana or Canada. The District Court declared the nonessential experimental designation to be unlawful and ordered that the reintroduced wolves be removed. However, the Court stayed the order pending an appeal. The United States has appealed the District Court's ruling; final briefs were filed in January 1999, and oral arguments have been scheduled for May 1999. Due to the stay and the appeal, wolves in central Idaho and the Greater Yellowstone area continue to be protected and managed as they had been prior to the District Court ruling.

The Red Wolf

The red wolf (*Canis rufus*), a different species than the gray wolf (*Canis lupus*), is one of the most endangered animals in the world. This species is smaller than the gray wolf, weighing 42-84 pounds as compared to the gray wolves average of 80-120 pounds. Red wolves closely resemble the coyote but are more robust and have longer legs and ears. The red wolf once roamed much of the southeastern United States from the Atlantic Coast to central Texas and from the Gulf Coast to central Missouri. By 1920, predator control programs and habitat destruction had extirpated the species from much of its range, thus favoring the closely related coyote. By 1970, it is believed that less than 100 individuals remained in the wild and were found only in Texas and Louisiana. The species was considered to be extinct in the wild by 1980.

In 1975 it was determined that red wolves could not be maintained in their limited remaining range because of extensive interbreeding with the more numerous coyote. In response, the Service, in cooperation with the Metropolitan Park Board of Tacoma, Washington, began a captive breeding program for red wolves at the Point Defiance Zoo in Tacoma. A final effort was made to capture as many of the remaining red wolves as possible to initiate the captive breeding program. Presently, 36 zoos and nature centers cooperate in a national breeding program designed to restore red wolves to the wild.

Since 1987, red wolves have been released in northeastern North Carolina with first releases into the Alligator River National Wildlife Refuge. Red wolves were also released into the Great Smoky Mountains National Park in Tennessee beginning in 1991. Other red wolves have been released on coastal islands in Florida, Mississippi and South Carolina. Although the islands are not large enough to support viable populations of wolves for the long term, they provide the opportunity for these animals to gain wild experience in preparation for later releases into future mainland reintroduction sites.

Since these initial reintroduction efforts, the endeavor to reintroduce red wolves into the Great Smoky Mountains has been terminated because it was unsuccessful. Despite this setback, the reintroduction program continues to be strong in northeastern North Carolina. Currently there are about 75 red wolves in the wild in northeast North Carolina, an additional 7-10 wolves on coastal islands and 163 in captive breeding programs. Recovery goals for the species include, 220 indi-

The Red Wolf (cont.)

viduals in the wild in at least three populations and 330 wolves in captivity. For more information on the red wolf, contact Gary Henry, 704-258-3939 x226; gary_henry@fws.gov.

How Do Wolves Impact Their Ecosystem?

The gray wolf is a keystone species which has a significant impact on the diversity and health of its ecosystem. The presence of wolves affects everything from its prey, to other predators, to vegetation. Perhaps the most obvious impact of wolves is on their prey. The wild prey of wolves are primarily ungulates (hoofed animals) including deer, moose, elk, bison, caribou, bighorn sheep, muskox and mountain goats. They also eat smaller wild prey including beaver, snowshoe hare, and occasionally, smaller mammals, birds and large invertebrates. The impact of wolf predation on prey numbers depends on the number of wolves and the number of prey each wolf takes. In general, the number of wolves will increase with increasing prey densities because, during these times, prey is easier to find. Usually, wolves do not play a role in the decline of prey numbers unless other factors have decreased the vigor of the prey population. For example, wolves have exacerbated a decline of deer numbers in Minnesota following a series of harsh winters with deep snow. That population quickly rebounded when weather conditions returned to normal.

Predators, such as the wolf, play a vital role in maintaining a healthy balance with their prey. Wolves tend to kill the old, very young, sick, injured or otherwise disadvantaged members of a herd. By thinning the ungulate populations in this way, a stronger, healthier herd is left. Consequently, fewer individuals die of malnutrition and massive winter die offs are reduced.

Wolves also affect the behavior of their prey. Social relationships, migratory patterns, yarding and home range locations are closely related to how prey defend against wolf predation. In areas with wolves, ungulates—such as elk or caribou—may establish migratory patterns to separate calving grounds from wolf denning sites. In the absence of wolves, prey become less wary and vigilant and become more sedentary. This sedentary lifestyle leads to overgrazing which can harm sensitive riparian areas and increase erosion in open landscapes. Reintroduced wolves tend to move the grazing ungulates away from these habitats, giving the vegetation the chance to recover. In winter, when prey are more vulnerable, yarding occurs as ungulates, such as deer, group together to spread the risk of predation over a larger group. Yarding behavior in ungulates is reduced or eliminated where wolves are not present.

Wolves can act as an effective management tool in nature reserves and parks. Beaver may be successfully managed by wolves. In areas where wolf populations are suppressed, beaver colonies increase, affecting the flow of steams and other waterways.

Wolves also change the species composition and increase diversity in areas where they exist. The remains of wolf kills provide a year round food source for scavengers such as ravens, magpies, grizzly bears and

even carrion beatles. Wolves compete with other predators, including mountain lion and coyotes and will kill or drive these species away. Wolf caused mortality is believed to be the reason coyotes were eliminated from Isle Royale, Michigan. Within 10 years of colonization by wolves, the coyotes were forced out by competition with wolves. The reintroduction of wolves into Yellowstone National Park has also given us the opportunity to observe wolf/coyote interactions. In two and one-half years, coyote populations have been halved in areas where wolves are present, due to direct conflict with wolves. Wolves will kill coyotes when they encounter them, therefore, coyote packs can only exist between wolf territories where they are less likely to encounter wolves.

The indirect impacts of decreased coyote populations are still being studied, although several effects are indicated. The populations of foxes, badgers and martens, animals which compete with coyotes for rodents and other small mammals, increase in areas where coyotes are excluded. In the presence of wolves, the populations of small mammals, the coyotes' primary food source, increase. As a result of this increase, eagles, hawks and other raptors, which rely on small mammals for food, flourish.

Each component of an ecosystem plays a vital role in the over-all health and maintenance of that system. We are just beginning to understand the role of the wolf in its ecosystem. Many questions remain to be answered...How does the presence of wolves effect broad-scale evolutionary functions?...What will be the effect on prey from having to deal with wolves in addition to coyotes, grizzly bears and mountain lions?..How do wolves effect the number of birds or invertebrates? We have been given a wonderful opportunity to search for the answers to these questions and many others by observing the effects of wolf reintroduction programs in the western and southwestern United States.

Information for the article on wolves and their ecosystem was taken from the following:

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